2 Product Specifications

2-1 MJ15AS*/MJ15BS*/MJ17AS*/MJ17BS* Specifications

Item	Description	
	MJ15AS*/MJ15BS*	MJ17AS*/MJ17BS*
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally black transmissive, 15-Inch viewable, 0.297 (H) x 0.297 (V) mm pixel pitch	TFT-LCD panel, RGB vertical stripe, normally black transmissive, 17-Inch viewable, 0.264 (H) x 0.264 (V) mm pixel pitch
Scanning Frequency	Horizontal : 31 kHz ~ 61 kHz (Automatic) Vertical : 50 Hz ~ 75 Hz	Horizontal : 30 kHz ~ 81 kHz (Automatic) Vertical : 56 Hz ~ 75 Hz
Display Colors	16.2 Million colors	
Maximum Resolution	Horizontal : 1024 Pixels Vertical : 768 Pixels	Horizontal : 1280 Pixels Vertical : 1024 Pixels
Input Video Signal	Analog, 0.714 Vp-p ± 5% positive at 75 Ω, internally terminated	[Digital(TMDS): MJ15BS*, MJ17BS*]
Input Sync Signal	Type : Separate H/V sync, Composite H/V Level : TTL level (V high ≥ 2.0 V, V low ≤ 0.8 V), Sync-on-Green (≤ –0.25 V)	
Maximum Pixel Clock rate	80 MHz	135 MHz
Active Display Horizontal/Vertical	304.1 mm / 228.1 mm	338 ± 3 mm / 270 ± 3 mm
AC power voltage & Frequency	AC 90 ~ 264 Volts, 60/50 Hz ± 12V / 3A	AC 90 ~ 264 Volts, 60/50 Hz ± 3 Hz
Power Consumption	25W (normal)	34W (normal)
Dimensions	Simple Stand / Pivot Stand	Simple Stand
Set (W x D x H)	13.3 x 2.2 x 10.7 Inches (338.0 x 56.3 x 272.0 mm) State of stand disassembled 13.3 x 6.9 x 13.3 Inches (338.0 x 175.0 x 337.0 mm) State of stand installed	14.6 x 2.4 x 12.4 Inches (370.0 x 60.3 x 316.0 mm) State of stand disassembled 14.6 x 6.9 x 15 Inches (370.0 x 175.0 x 381.0 mm) State of stand installed
Package	15.3 x 4.9 x 15.1 Inches (388 x 125 x 383 mm)	17.9 x 5.6 x 17.2 Inches (455 x 141 x 437 mm)
Weight (Set/Package)	3.1 kg (6.8 lbs) / 4.25 kg (9.4 lbs)	4.5 kg (9.9 lbs) / 6.15 kg (13.6 lbs)
Dimensions		Pivot Stand
Set (W x D x H)	-	14.6 x 2.4 x 12.4 Inches (370.0 x 60.3 x 316.0 mm) State of stand disassembled 14.6 x 7.5 x 16.0 Inches (370.0 x 190.9 x 406.8 mm) State of stand installed
Package		20.0 x 10.1 x 16.0 Inches (508 x 256 x 407 mm)
Weight (Set/Package)	-	6.25 kg (13.8 lbs) / 7.95 kg (17.5 lbs)
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -13°F ~ 113°F (-25°C ~ 45°C) Storage Humidity : 5 % ~ 95 %	
• Designs and specifications are subject to change without prior notice.		

2-2 MJ19AS*/MJ19BS*/MJ19ES* Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally black transmissive, 19-Inch viewable, 0.297 (H) x 0.297 (V) mm pixel pitch	
Scanning Frequency	Horizontal : 31 kHz ~ 81 kHz (Automatic) Vertical : 55 Hz ~ 76 Hz	
Display Colors	16.2 Million colors	
Maximum Resolution	Horizontal : 1280 Pixels Vertical : 1024 Pixels	
Input Video Signal	Analog, 0.7 Vp-p ± 5% positive at 75 Ω, [Digital(TMDS): MJ19BS*] internally terminated	
Input Sync Signal	Type : Separate H/V sync, Composite H/V Level : TTL level (V high ≥ 2.0 V, V low ≤ 0.8 V), Sync-on-Green (≤ –0.25 V)	
Maximum Pixel Clock rate	135 MHz	
Active Display Horizontal/Vertical	376.32 mm ± 3 mm / 301.056 mm ± 3 mm	
AC power voltage & Frequency	AC 90 ~ 264 Volts, 60/50 Hz ± 3Hz	
Power Consumption	38W (normal)	
Dimensions	Simple Stand	Pivot Stand
Set (W x D x H)	16.4 x 2.4 x 13.8 Inches (416.6 x 60.2 x 349.4 mm) State of stand disassembled 16.4 x 7.7 x 16.7 Inches (416.6 x 195.7 x 424.6 mm) State of stand installed	16.4 x 2.4 x 13.8 Inches (416.6 x 60.2 x 349.4 mm) State of stand disassembled 16.4 x 7.5 x 16.7 Inches (416.6 x 190.9 x 423.4 mm) State of stand installed
Package	20.0 x 5.9 x 19.4 Inches (509 x 150 x 494 mm)	21.1 x 9.4 x 17.4 Inches (535 x 238 x 443 mm)
Weight (Set/Package)	5.85 kg (12.9 lbs) / 7.8 kg (17.2 lbs)	7.30 kg (16.1 lbs) / 9.1 kg (20.1 lbs)
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -13°F ~ 113°F (-25°C ~ 45°C) Storage Humidity : 5 % ~ 95 %	
• Designs and specifications are subject to change without prior notice.		

2-3 Pin Assignments

Sync Type / Pin No.	15-Pin D-Sub Signal Cable Connector		
	Separate	Composite	Sync-on-green
1	Red	Red	Red
2	Green	Green	Green + H/V Sync.
3	Blue	Blue	Blue
4	GND	GND	GND
5	DDC Return (GND)	DDC Return (GND)	DDC Return (GND)
6	GND-R	GND-R	GND-R
7	GND-G	GND-G	GND-G
8	GND-B	GND-B	GND-B
9	DDC Power Input (+5V)	DDC Power Input (+5V)	DDC Power Input (+5V)
10	Self Raster	Self Raster	Self Raster
11	GND	GND	GND
12	Bi-Dr Data (SDA)	Bi-Dr Data (SDA)	Bi-Dr Data (SDA)
13	H-Sync.	H/V-Sync.	Not Used
14	V-Sync.	Not Used	Not Used
15	DDC Clock (SCL)	DDC Clock (SCL)	DDC Clock (SCL)

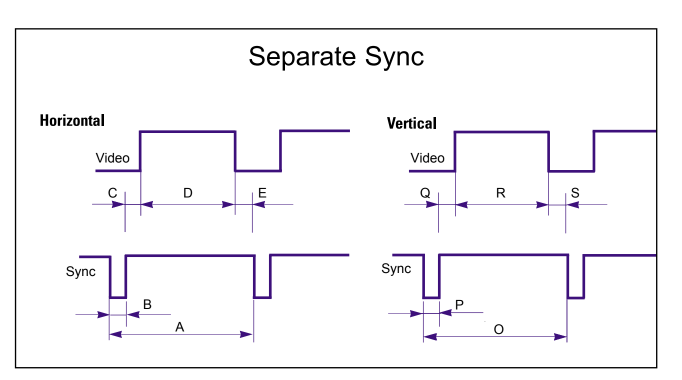
Sync Type / Pin No.	24P DVI-D		
1	Rx2-	13	No Connection
2	Rx2+	14	+5V_M
3	GND	15	Self Raster
4	No Connection	16	+5V_M
5	No Connection	17	Rx0-
6	DDC Clock (SCL)	18	Rx0+
7	DDC Data (SDA)	19	NC
8	NC	20	No Connection
9	Rx1-	21	No Connection
10	Rx1+	22	NC
11	NC	23	RxC+
12	No Connection	24	RxC-

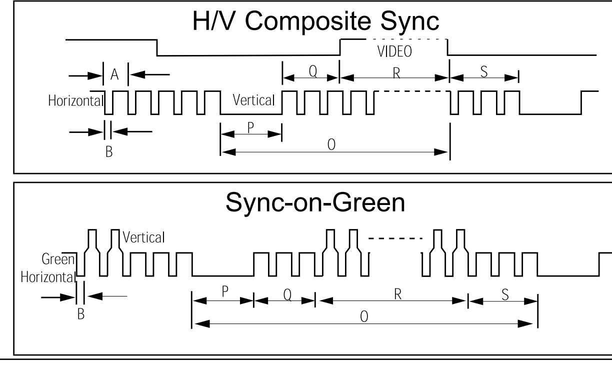
2-4 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1 Timing Chart

Mode / Timing	IBM		VESA (MJ15AS*/MJ15BS*/MJ17AS*/MJ17BS*/MJ19AS*/MJ19BS*/MJ19ES*)					VESA(MJ17AS*/MJ17BS*/ MJ19AS*/MJ19BS*/MJ19ES*)	
	VGA2/ 70 Hz 720 x 400	VGA3/ 60 Hz 640 x 480	640/75 Hz 640x480	800/60 Hz 800x600	800/75 Hz 800x600	1024/60 Hz 1024x768	1024/75 Hz 1024x768	1280/60 Hz 1280x1024	1280/75 Hz 1280x1024
fH (kHz)	31.469	31.469	37.500	37.879	46.875	48.363	60.023	63.981	79.975
A µsec	31.777	31.778	26.667	26.400	21.333	20.677	16.660	11.852	12.504
B µsec	3.813	3.813	2.032	3.200	1.616	2.092	1.219	1.037	1.067
C µsec	1.589	1.589	3.810	2.200	3.232	2.462	2.235	2.296	1.837
D µsec	26.058	26.058	20.317	20.000	16.162	15.754	13.003	9.259	9.481
E µsec	0.318	0.318	0.508	0.000	0.323	0.369	0.203	0.000	0.119
fV (Hz)	70.087	59.940	75.000	60.317	75.000	60.004	75.029	60.020	75.025
O msec	14.268	16.683	13.333	16.579	13.333	16.666	13.328	16.005	13.329
P msec	0.064	0.064	0.080	0.106	0.064	0.124	0.050	0.047	0.038
Q msec	0.858	0.794	0.427	0.607	0.448	0.600	0.466	0.594	0.475
R msec	13.155	15.761	12.800	15.840	12.800	15.880	12.795	15.630	12.804
S msec	0.191	0.064	0.027	0.0261	0.021	0.062	0.017	0.016	0.013
Clock Freq. (MHz)	28.322	26.175	31.500	40.000	49.500	75.000	78.750	108.000	135.000
Polarity H.Sync	Negative	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Positive
V.Sync	Positive	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate





A : Line time total
B : Horizontal sync width
C : Back porch
D : Active time
E : Front porch

O : Frame time total
P : Vertical sync width
Q : Back porch
R : Active time
S : Front porch